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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/666,375

09/19/2003

Timothy L. Proulx

2003P11412US

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7590

03/24/2005

Siemens Corporation  
Intellectual Property Department  
170 Wood Avenue South  
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EXAMINER

MAYO III, WILLIAM H

ART UNIT

PAPER NUMBER

2831

DATE MAILED: 03/24/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	Application No. <b>10/666,375</b>	Applicant(s) <b>PROULX, TIMOTHY L.</b>	
	Examiner <b>William H. Mayo III</b>	Art Unit <b>2831</b>	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 07 February 2005.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-23 is/are pending in the application.
- 4a) Of the above claim(s) 12-18 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-11 and 19-23 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Election/Restrictions***

1. This application contains claims 12-18 are drawn to an invention nonelected over the phone during a telephone conversation with Herbert Dubno on October 15, 2004, a provisional election was made without traverse to prosecute the invention of Group I, claims 1-11 and 19-23. A complete reply to the final rejection must include cancellation of nonelected claims or other appropriate action (37 CFR 1.144) See MPEP § 821.01.

### ***Claim Rejections - 35 USC § 102***

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

3. Claims 19 and 21-23 are rejected under 35 U.S.C. 102(b) as being anticipated by Adams et al (Pat Num 5,937,950, herein referred to as Adams). Adams discloses a cable (Figs 1-5) which is capable of reducing crosstalk during ultrasonic wave operation (i.e. the conductors contain shields and therefore would reduce crosstalk, Col 4, lines 20-25). Specifically, with respect to claim 19, Adams discloses a ultrasound system (Figs 1-2) comprising a first plurality of ultrasound transducer elements (22) are connected with the first group of conductors (output conductors, not shown) along a transmit aperture (62, i.e. slot shown in Fig 3) and the second group of ultrasound

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transducer elements (22) are connected with the second group of conductors (excitation conductors, not shown), in a receive aperture (62, i.e. slot shown in Fig 3), wherein the first group of signal conductors (output conductors, not shown) comprise a conductive separation layer (i.e. shield, not shown) to separate the first group of signal conductors (output conductors, not shown) from the second group of signal conductors (excitation conductors, not shown, Col 4, lines 3-14). With respect to claim 21, Adams discloses that the first group of signal conductors (output conductors, not shown) occupy the center of the cable (28) and is surrounded by a shield (not shown) and the second group of signal conductors (excitation conductors, not shown) occupy the periphery of the cable (28) outside the shield (not shown), wherein the second group of signal conductors (excitation conductors, not shown) are themselves, along with the first signal conductors (output conductors, not shown), surrounded by an additional shield (not shown, Col 4, lines 20-26). With respect to claim 22, Adams discloses that a protective cable covering (i.e. outer jacket shown around cables 24a-24d) surrounding the first and second groups of conductors (output and excitation conductors, not shown), the conductive separation layer (i.e. shield around the first group of conductors, not shown) and the additional separation layer (i.e. shield around the second group of conductors, not shown, Cols 3 & 4, lines 65-67 & 20-26, respectively). With respect to claim 23, Adams discloses that the separation layer (i.e. shield, not shown) is a group of served wire (i.e. individual wires, Col 4, lines 12-14).

***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 1, 3-11, and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Adams et al (Pat Num 5,937,950, herein referred to as Adams). Adams discloses a cable (Figs 1-5), which is capable of reducing crosstalk during ultrasonic wave operation (i.e. the conductors contain shields and therefore would reduce crosstalk, Col 4, lines 20-25). Specifically, with respect to claim 1, Adams discloses a cable (28) comprising four individual cables (24a-24d), each individual cable (24a-24d) comprising four signal conductors (not shown), wherein the first signal conductors comprise a first group of signal conductors (i.e. output conductors, not shown) and a second group (i.e. excitation conductors) which are different than the first group of signal conductors (output conductors, not shown) and wherein the first group of signal conductors (output conductors, not shown) comprise a conductive separation layer (i.e. shield, not shown) to separate the first group of signal conductors (output conductors, not shown) from the second group of signal conductors (excitation conductors, not shown, Col 4, lines 3-14), wherein a first plurality of ultrasound transducer elements (22) are connected with the first group of ultrasound signal conductors (output conductors, not shown) and the second group of ultrasound signal transducer elements (22) are connected with the second group of ultrasound signal

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conductors (excitation conductors, not shown), wherein the first group of signal conductors (output conductors, not shown) are different than the second group of signal conductors (excitation conductors, not shown, Col 4, lines 3-14). With respect to claim 3, Adams discloses that a first plurality of transmit beam former (22, i.e. transducer is a beam former) are connected with the first group of ultrasound signal conductors (output conductors, not shown) and the second group of transmit beam former (22, i.e. transducer is a beam former) are connected with the second group of ultrasound signal conductors (excitation conductors, not shown), wherein the first group of signal conductors (output conductors, not shown) are different than the second group of signal conductors (excitation conductors, not shown, Col 4, lines 3-14). With respect to claim 4, Adams discloses that the first group of ultrasound signal conductors (output conductors, not shown) comprises a transmitting bundle of conductors (i.e. output conductors) and the second group of ultrasound signal conductors (excitation conductors) comprises a receive bundle (i.e. input conductors, Col 4, lines 8-14). With respect to claim 9, Adams discloses that the first and second group of signal conductors (output and excitation conductors, not shown) are bundles of wires (Col 4, lines 8-12). With respect to claim 10, Adams discloses that the first group of signal conductors (output conductors, not shown) occupy the center of the cable (28) and is surrounded by a shield (not shown) and the second group of signal conductors (excitation conductors, not shown) occupy the periphery of the cable (28) outside the shield (not shown), wherein the second group of signal conductors (excitation conductors, not shown) are themselves, along with the first signal conductors (output conductors, not

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shown), surrounded by an additional shield (not shown, Col 4, lines 20-26). With respect to claim 11, Adams discloses that the that the first group of signal conductors (output conductors, not shown) occupy the center of the cable (28) and is surrounded by a shield (not shown) and the second group of signal conductors (excitation conductors, not shown) occupy the periphery of the cable (28) outside the shield (not shown), wherein the second group of signal conductors (excitation conductors, not shown) are themselves, along with the first signal conductors (output conductors, not shown), surrounded by an additional shield (not shown, Col 4, lines 20-26).

However, Adam doesn't specifically disclose the first and second groups comprising at least 10 ultrasonic signal conductors (claim 1), nor the being coaxial cables (claim 5), nor the first and second groups being at least one ribbon of conductors (claim 6), nor the conductive separation layer being a braided shield layer (claims 7 & 20), nor the conductive separation layer being one or more ribbons of grounded conductors around the first group of signal conductors (claim 8).

Daane teaches a cable assembly (Figs 1-8) that provides protection against external noise (i.e. EMI) and permits significant flexibility of the cable (Col 2, lines 1-2). Specifically, with respect to claim 1, Daane teaches that the cable (16) has a first group of conductors (1<sup>st</sup> group of 33), that may comprise 10 conductors (Col 3, lines 31-36). With respect to claim 5, Daane teaches a cable assembly (10) comprising a cable (16, as shown in Fig 4) attached to a transducer (30), wherein the cable (16) has a first group of conductors (1<sup>st</sup> group of 33) and a second group of conductors (2<sup>nd</sup> group of 33), wherein the first group and the second group of conductors (1<sup>st</sup> and 2<sup>nd</sup> group of

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33) both comprise coaxial cables (Col 2; lines 38-39). With respect to claim 6, Daane teaches first and second groups (1<sup>st</sup> and 2<sup>nd</sup> groups of 33) may comprise multiple ribbon layers (34 as shown in Fig 2). With respect to claims 7 & 20, Daane teaches that the conductive separation layers (50) may comprise a braided shield (Col 2, lines 65-67). With respect to claim 8, Daane teaches that the separation layer (50) comprises one or more ribbons of grounded conductors (i.e. the outer shields of the ribbon cables 34 are grounded to the ground terminal of the circuit board, Col 2, lines 49-52).

With respect to claims 1, 5-8 and 20, it would have been obvious to one having ordinary skill in the art of cables at the time the invention was made to modify the cable assembly of Adam to comprise the signal conductor and shield configuration as taught by Daane because Daane teaches that such a configuration provides protection against external noise (i.e. EMI) and permits significant flexibility of the cable (Col 2, lines 1-2) and since it has been held that a change in form cannot sustain patentability where involved is only extended application of obvious attributes from a prior art. *In re Span-Deck Inc. vs. Fab-Con Inc.* (CA 8, 1982) 215 USPQ 835.

### ***Response to Arguments***

6. Applicant's arguments filed February 7, 2005 have been fully considered but they are not persuasive. The applicant argues the following:

- A) Adams doesn't specifically disclose the group of conductors comprising 10 conductors.



- B) A person of ordinary skill in the art would not have used the cable of Adams with the ultrasonic transducers as disclosed by Daane et al and therefore the combination of references is improper.
- B) Adams doesn't disclose ultrasound transducer elements and therefore cannot anticipate the claimed invention of claim 19.

With respect to argument A, the examiner respectfully submits that the argument is moot in view of the new rejection.

With respect to argument B, the examiner respectfully traverses. It appears that the applicant is stating that the incorporation of ultrasonic transducers of Daane into Adams would result in the cable of Adams being inoperable, which is not the proper test for obviousness. The test for obviousness is not whether the features of a secondary reference may be bodily incorporated into the structure of the primary reference; nor is it that the claimed invention must be expressly suggested in any one or all of the references. Rather, the test is what the combined teachings of the references would have suggested to those of ordinary skill in the art. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981). In this case, Daane is being relied upon for its teaching of groups of conductors being utilized with a transducer. Specifically, Daane teaches that such a configuration provides protection against external noise (i.e. EMI) and permits significant flexibility of the cable (Col 2, lines 1-2). Therefore, it would have been obvious to one having ordinary skill in the art of cables at the time the invention was made to modify the cable assembly of Adam to comprise the signal conductor and shield configuration as taught by Daane because Daane teaches that such a

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configuration provides protection against external noise (i.e. EMI) and permits significant flexibility of the cable (Col 2, lines 1-2) and since it has been held that a change in form cannot sustain patentability where involved is only extended application of obvious attributes from a prior art. *In re Span-Deck Inc. vs. Fab-Con Inc.* (CA 8, 1982) 215 USPQ 835. In light of the above, the examiner respectfully submits that the rejection of claims 19 and 21-23 is proper.

With respect to argument C, the examiner respectfully traverses. It is respectfully submitted that all of the claimed structure is disclosed in the Adams reference as detailed above. While the Adam reference doesn't specifically disclose the transducers being ultrasound transducers, a recitation of the intended use of the claimed invention must result in a structural difference between the claimed invention and the prior art in order to patentably distinguish the claimed invention from the prior art. If the prior art structure is capable of performing the intended use, then it meets the claim. In a claim drawn to a process of making, the intended use must result in a manipulative difference as compared to the prior art. See *In re Casey*, 370 F.2d 576, 152 USPQ 235 (CCPA 1967) and *In re Otto*, 312 F.2d 937, 939, 136 USPQ 458, 459 (CCPA 1963). Since there is no difference between the cable of Adams and the claimed invention of claim 19, the examiner respectfully submits that the cable of Adams is capable of being utilized as a ultrasound cable, as the applicant's same claimed structure is capable.

***Conclusion***

7. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

***Communication***


8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to William H. Mayo III whose telephone number is (571)-272-1978. The examiner can normally be reached on M-F 8:30am-6:00 pm (alternate Fridays off).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Dean Reichard can be reached on (571) 272-2800 ext 31. The fax phone

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number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



William H. Mayo III  
Primary Examiner  
Art Unit 2831

WHM III  
March 18, 2005